

Calculation of inertial ...

S/169/63/000/002/054/127  
D263/D307

of such a buttress are based on the following assumptions: the transverse cross-section is rectangular, the accumulated mass of water is not taken into account, and the hypothesis of plane sections is obeyed. Under these conditions, natural oscillations of the buttress may be described by an integral equation or a system of homogeneous equations obtained as a result of the replacement of the distributed mass of the wedge by a finite number of localized masses. The calculation of the stability of the buttress against seismic effects along the axis of the dam is carried out approximately. The strength of the buttress wall depends on its mass, and the wall itself is in the form of a plate with a triangular profile and different boundary conditions. This investigation is used to determine the frequency and form of the natural oscillations of a wedge-shaped buttress at right angles to the dam, under simultaneously applied bending and shear stresses, and also the frequency and form of oscillations of the wall of the buttress in the direction along the dam. This may be used to estimate the magnitude of seismic load on a concrete buttressed dam. /-Abstracter's note: Complete translation. /

Card 2/2

GUTIDZE, P.A., kand.tekh.nauk; RUSADZE, V.F., inzh.

Study of the foundation of a 100 Mw. turbogenerator. Elek. sta. 34  
no.6:35-38 Je '63. (MIRA 16:9)  
(Turbogenerators—Vibration)

GUTIKOV, V.

Quarantine and observation. Voen. znan. 40 no.12:26-27 D '62  
(MIRA 18:1)

GUTIKOV, V.A., inzh.

Installation of a cylindrical gate apparatus in D18x2 flue gas  
pumps. Energetik 13 no.1:12-15 Ja '65. (MIRA 18:3)

GUTIKOV, Vladimir Semenovich; SHATLOV, Yuriy Aleksandrovich;  
BELYAYEV, L.G., red.; OGLOBLIN, K.S., red.

[Giving first aid to victims of nuclear weapons. What everybody should know and be able to do!] Okazanie pervoi meditsinskoi pomoshchi postradavshim ot iadernogo oruzhiia. Znat' i umet' kazhdomu! Moskva, DOSAAF, 1964.  
46 p. (MIRA 18:2)

GUTIN, B.

We are increasing the capacity of freezers. Mias. ind. SSSR  
27 no.4:54-55 '56. (MLRA 9:10)

1. Orshanskiy myasokonservnyy kombinat.  
(Refrigeration and refrigerating machinery)

SA B69

1830. Theory of the Horn Receiver. L. Gutin. *Techn. Phys.*, U.S.S.R. 3. 1. pp. 81-88, 1930. In French.—A theoretical study is made of the action of horns with particular reference to their amplifying power either as radiators or receivers. Three types of horn are considered—conical, parabolic and exponential. Certain assumptions have to be made with regard to the shape of the wave emitted. It is concluded that the amplification of a parabolic horn increases continually with frequency, whereas in the case of a conical or exponential horn the amplification falls above a certain frequency.

J. E. R. C.

ASW-11A METALLURGICAL LITERATURE CLASSIFICATION

*Gutkin, L. A.*  
GUTKIN, L. A.

O zvukovom pole vrashchayushchegosia vorki, 1936, v.6, no.5, p.899-909, diagrs.)

Title tr.: On the sound field of a rotating propeller.

QCI.743 1936

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955



GUTIN, I. Ya.

CSd.R

D.R

ES.R

Candidate of technical sciences  
Lecturer (dotson)

Delivered a paper "Rasprostraneniye upravikh  
kolebaniy v tvorloy srede" at Nauchno-tekh-  
nicheskaya konferentsiya Leningradskiy Elektrov  
tekhnicheskoy Institut in. Ul'yanova (Lenina),  
June 1946.

Source: Elektrichestvo, 1947, No. 1, p. 76.

P-5232

On the Sound Field of a Rotating Propeller, *Acustica*,  
*Kalender Zeitschrift der Sachkademie*, Vol. 10, No. 1, 1956, pp. 1-10.  
U.S. N.A.C.A., Technical Memorandum No. 1196, 1948, 21 pp., figs.

The sound field of a rotating propeller is treated theoretically on the basis of hydrodynamic principles. The calculation of the sound field of the propeller depends on an equation that is valid for small disturbances and for small forward speeds. For the lower harmonics, the directional characteristics and the radiated sound energy are determined and are in agreement with experimental results.

SH

E 69

2731. Sound-Field due to a Vibrating Piston. L. Gutin. *Techn. Phys., U.S.S.R.* 4, 5, pp. 404-412, 1937. In German.—The sound-field due to a piston oscillating in an infinite baffle is calculated and the directional characteristics are determined. By combining the result with that applicable to a pair of pistons vibrating in opposite phases the sound-field due to a piston which radiates from one face only is calculated. This result is then used to study the acoustical characteristics of an exponential horn. Good agreement with experiment is obtained for the radiation factor of an exponential horn. The amplification factor of a horn used to collect sound is calculated, the special case in which the end of the horn is closed with a membrane being also considered. J. E. R. C.

ASAC SLA METALLURGICAL LITERATURE CLASSIFICATION

*Acoustic & Radio  
Frequencies*

841. On Propeller Noise. I. Ya. Gutin, B. P. Konstantinov. (*Journ. of Tech. Phys.* [in Russian], No. 2/3, Vol. 12, 1941, pp. 76-83; p. 84)

The first paper is a further development of a theory of propeller noise proposed by the author in 1936 (1801 of 1936). A brief survey of the papers on the subject published in the intervening years is given and some of the criticisms of the author's theory are answered. In the second paper a few remarks are made on Gutin's paper. It is stated that attempts to obtain a general solution of the equation determining the noise field of a rotating propeller are futile, and reference is made to another approximate method which, it is claimed, is more logical and accurate than the one proposed by Gutin.

PUTIN, L. Ya.

"On the Theory of the Magnetostrictional Transformer," Zhur. Tekh. Fiz., 15,  
No. 4-5, 1945.

GUTIN, L. Ya.

"On the Theory of Piezoelectric Effect," Zhur. Eksper. i Teoret. Fiz., 15, No. 7, 1945.

GUTIN, L. Ya.

"Magneto-strictional Emitters and Receivers: I. Oscillator of the Rod-Type,"  
Zhur. Tekh. Fiz., 15, No. 12, 1945.

1ST AND 2ND COVERS										PROCESSING AND PROPERTIES INDEX										1ST AND 2ND COVERS									
SA										<p>Piezoelectric oscillators and receivers. Glazov, I. A. <i>J. Tech. Phys., USSR</i>, 16 (No. 1) 39-34 (1946) in Russian.—The transverse piezo effect, corresponding to the longitudinal oscillations in a prismatic rod of piezo-electric material, and conversely the longitudinal piezo effect are investigated analytically. Generalized equations for amplitude distribution are solved for boundary values given by mechanical impedance loads. Electro-mechanical analogies are illustrated diagrammatically. Single and double-sided quartz oscillators are described and their resonant frequency and generated power calculated. Both single and double-sided Rochelle salt oscillators are treated when transversely and longitudinally excited, and frequency and power output calculated. The properties of quartz and Rochelle salt receivers are analyzed and their behavior considered at and off resonance.</p> <p style="text-align: right;">A. L.</p>										B66 1									
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1st and 2nd covers		3rd and 4th covers	
COMMON ELEMENTS		COMMON VARIABLES INDEX	
<p>LA</p> <p>2</p> <p>Constants of Rochelle salt. L. Gutin. <i>J. Appl. Theoret. Phys.</i> (U.S.S.R.) 15, 198-207(1946).—The results obtained by W. P. Mason (C.A. 33, 8490<sup>2</sup>) being correctly interpreted do not contradict the classical theory of the piezo effect. The two systems of elastic consts. of Rochelle salt, elastic and elastically-electric, are being introduced. Whereas the former are being computed in the present work, the latter have been detd. in the expts. of Mason. On the basis of more exact theory, the values of piezoelec. and dielec. consts. are obtained that differ from values computed by Mason.</p> <p>R. Gacow</p>			
ASS-51A METALLURGICAL LITERATURE CLASSIFICATION		E-2000-1000-1000	
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155A. L. Gutin, "On the sound field of a rotating propeller,"  
Natl. adv. Comm. Aero. tech. Memo, no. 1105, Oct. 1918, pp. 1-21  
(transl. from *Phys. Z. Sowjet.*, 1936, vol. 9, no. 1).

The periodical forces due to the rotation of a propeller element  
are expanded into Fourier series. In this process the forward  
speed of the propeller seems to be neglected. The first harmonics  
of the periodical forces are introduced into the general equation  
for the velocity potential produced by a concentrated force.  
From this potential the sound pressure and the directional  
characteristics are obtained. The results are in agreement with  
existing experimental data.

E. Harnad, USA

GUTIN L. Ya.

FA 119094

USSR/Physics - Wave Propagation

Aug 51

"Theory of Stabilized Oscillations of Elastic  
Half Space," L. Ya. Gutin

"Zhur Tekh Fiz" Vol XXI, No 8, pp-892-906

Study of subject started by H. Lamb was continued  
by Sobolev and Smirnov (Trudy Seismol Inst No  
20), Naryshkina (ibid. No 45, 1934) and Sherman  
(ibid No 118, 1946). Author shows that by means  
of Lamb's formulas it is possible to obtain  
asymptotic expressions for the displacement of  
surface wave inside the half-space. Submitted  
30 Dec 1951.

19494

GUTIN, L.Ya. (Leningrad)

Radiation into an elastic medium from a vibrating piston  
inserted in an infinite screen. Akust. zhur. 9 no.3:314-323  
'63. (MIRA 16:8)

(Sound waves)

GUTIN, L.Ya. [deceased] (Leningrad)

Sound radiation from an infinite plate induced by a focused force  
normal to it. Akust.zhur. 10 no.4:431-434 '64.

(MER 18:2)

GUTIN, L. Ya.

"On the Excitation of Flexural Waves on an Infinite Strip."

"Radiation of Sound Caused by Flexural Vibrations of a Plate."

paper presented at the 4th All-Union Conf. on Acoustics, Moscow, 26 May - 4 Jun 58.

SHEIN, A.V.; GUTIN, N.D.; VERSHININA, A.I.

At the Central Complex Laboratory of the Ural Geological Administration. Zav.lab. 28 no.8:1013-1014 '62. (MIRA 15:11)  
(Ural Mountain region--Chemical laboratories)  
(Minerals---Analysis)

ACC NR. AR6000725

SOURCE CODE: UR/0124/65/000/009/V016/V016

AUTHOR: Gutin, N. L.

30

27

8

TITLE: Free vibrations of a triple-layer conic shell

SOURCE: Ref. zh. Mekhanika, Abs. 9V114

REF SOURCE: Sb. Issled. po teorii plastin i obolochek. No. 2, Kazan', Kazansk. un-t, 1964, 94-103

TOPIC TAGS: conic shell structure, shell vibration, shell buckling

ABSTRACT: The equations of a thin elastic triple-layer shell for a light filler, which are given by E. I. Grigolyuk (Izv. AN SSSR. Otd. tekhn. n., 1957, No. 1, 77--84--RZhMekh, 1957, No. 11, 13032), are used to investigate the small natural transverse vibrations of a truncated right circular conic shell. The solution is carried out by the Bubnov orthogonalization method. The equations in the displacements (relative to the buckling  $w$ , of the tangential displacements of the supporting layers in the meridional  $u_1$ ,  $u_2$  and circumferential  $v_1$ ,  $v_2$  directions) are used.

The buckling  $w$  and tangential displacements are selected in the form suggested by E. I. Grigolyuk (Izv. AN SSSR. Otd. tekhn. n., 1956, No. 6, 35--44--RZhMekh, 1958, No. 3, 3205)

Card 1/2

Card 2/2



Electrical properties of oxide insulation on aluminum.  
S. S. Gubin, *J. Tech. Phys.* (U.S.S.R.) 3, 1185-99  
(1963); *ET. C. A.* 27, 8082.—Oxide layers obtained in

$H_2SO_4$  are cryst., being the  $\gamma$  modification, and those in  $H_2SO_4$  are of very fine cryst. structure. Size of structure influences dielec. coeff. only. The layers are very porous, absorbing water up to 32.0% by vol. Sp. vol. resistivity is  $10^{10}$  ohm/cc. Cond. and dielec. loss up to 140° depend chiefly on absorbed water, at 250° they are very satisfactory, but at higher temps. they increase rapidly. The oxide layers are brittle, increasingly so with increasing thickness. Low dielec. strengths are due to absorbed water, but may be increased several times by compounding with org. compds. and filling the pores with N. It is possible to obtain layers with thicknesses of tenths of a mm. having a dielec. strength of thousands of volts.

Eino Hanninen

\*Electrolytic Oxidation of Aluminum by Means of High-Frequency Alternating Current. A. F. Valters, S. S. Glatin, T. G. Lajunova, and D. V. Stepanov. (Zhurnal Fizicheskoy Khimii, [J. Phys. Chem.], 1933, 4, (3), 295-298). [In Russian.] See J. Inst. Metals, 1933, 30, 630. Experiments were carried out with frequencies of 500, 13,000, and 10<sup>6</sup> cycles/second in dilute sulphuric acid. The results obtained at 500 cycles/second do not differ markedly from those obtained at the usual industrial frequency (50 cycles/second). The properties of the film depend on the current density and electrode voltage. With 0.005-0.045 and also with about 0.5 amp./cm.<sup>2</sup> a uniform film is obtained at 350-400 v., but between 0.05 and 0.5 amp./cm.<sup>2</sup> a uniform film is unobtainable. Voltages between 50 and 200 v. have little effect. Electrolysis of narrow strips of aluminum at 2.5-3 amp./cm.<sup>2</sup> at 13,000 cycles/second can be carried out without a preliminary oxidation at 50 cycles/second, and produces a uniform gray film. The elasticity of such films, qualitatively, appears to be greater. Experiments at 10<sup>6</sup> cycles/second gave no positive results. N. A.

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1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
<p>Electrolytic condenser. L. N. Zakheim and A. S. Gulin. Russ. 44,607, Oct. 31, 1938. Al electrodes are subjected to electrolysis in an aq. soln. of <math>(\text{NH}_4)_2\text{CO}_3</math> and then placed between layers of a material acid. with a soln. of <math>(\text{NH}_4)_2\text{CO}_3</math> in between.</p>																			
<p>ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																			
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1000000000										1000000000									

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885. Electrical Breakdown of Inhomogeneous Dielectrics. S. Gutin and L. Seckelman. *Teoriya i Eksperim. U.S.S.R.* 2. 5. 66. 493-491

1936. *In German.*—The change in electrical strength due to the introduction of air spaces and powdered substances into homogeneous dielectrics was investigated both for uniform and non-uniform fields. The materials tested were colophonium containing 5 % of pure transformer oil and mica. Samples of the former containing colloidal carbon, powdered lead borate glass and powdered quartz and samples of the latter consisting of thin layers, the inner of which contained small perforations were used. It was found that the electric strength was reduced by the largest amount when conducting inclusions or gaseous spaces were present. Addition of substances having a high permittivity did not cause a large reduction. In the case of non-uniform fields (needle against plane) colophonium with and without lead borate glass gave similar results for the relation of B.D.V. to thickness; for colophonium containing carbon the values were much higher than for breakdown in a uniform field. It is suggested that these results show that the effect of the non-uniform field at the electrode is much greater than the disturbing effect of the inclusions on the uniform field. It is concluded that breakdown tests to determine homogeneity of structure are only valid when uniform fields are employed. A. M. T.

ASA-51A METALLURGICAL LITERATURE CLASSIFICATION

DX

Dry electrolytic condensers for working tensions of 12, 250 and 400 volts. G. S. Vendra, S. S. Gytin and L. N. Zakheim. *J. Tech. Phys.* (U. S. S. R.), 1955 9(1935).

The method of prepn. of these condensers consisting of oxidized Al foil with  $(\text{NH}_4)_2\text{CO}_3$ , glycerol and boric acid solns. as electrolytes is described. The dependence of capacity upon frequency is discussed. F. H. R.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND SERIES										3RD AND 4TH SERIES									
PROCESSING AND PROPERTY INDEX																			
BC										B-I-7									
<p>Electric breakdown of celophony in non-uniform fields. S. S. GURIN and L. N. ZAMKIN (Bull. Acad. Sci. USSR, 1958, 590-595).—The crit. val. of the field intensity at the electrodes for the breakdown of celophony between plane-spherical and plane-cylindrical electrodes increases as the radius of curvature <math>R</math> of the smaller electrode is decreased until a limiting val. of <math>R</math> is reached, below which the crit. field intensity is const. The max. val. of the crit. field intensity obtained was 7000 kv. per cm. with cylinders of 0.03 and 0.02 mm. diameter. The breakdown intensity in a uniform field depends on the size of the electrode surfaces and varies between 2500 and 5400 kv. per cm. It is suggested that these variations are due to the presence of weak spots in the material. Higher breakdown intensities between cylinder-plane electrodes are observed at const. than at variable voltage. O. D. S.</p>																			
618-514 METALLURGICAL LITERATURE CLASSIFICATION																			
SOURCE SYMBOL										ABSTRACT ONE ONLY									
1 2 3 4 5 6 7 8 9 10										11 12 13 14 15 16 17 18 19 20									

Electrolytic condenser. S. S. Gutin. Russ. 59,011.  
Sept. 30, 1940. The electrolyte contains a mixt. of glycol  
or glycerol with a monohydric alc.

ASM-A METALLURGICAL LITERATURE CLASSIFICATION



11

22

100 AND 1000 UNITS

PRECISE AND PROPERTIES IN IT

\*Electrolytic Condensers with Metal-Covered (Aluminium) Fabric. L. G. Godes and S. S. Gutin (Zhur. Tekhn. Fiziki, 1945, 15, 718-724; C. 16v., 1946, 40, 5040). - [In Russian]. The construction and characteristics of electrolytic condensers with metal-covered fabric are described. A white cotton fabric is uniformly metallized by sputtering with aluminium to form a layer 100-130  $\mu$  thick. The metallized tissue is then annealed at 95-100  $^{\circ}$ C in a solution containing 80 g.-l. boric acid and 0.2 g./l. borax, using a c.d. of 75-100 mamp./cm.<sup>2</sup> and a voltage of 600 V. Experiments show that an anodizing time of 75 min. reduces condenser leakage to a minimum. The condensers are constructed by rolling the metallized tissue which is then sealed, of paper, and inserting the whole in an aluminium tube which is then sealed. The roll is impregnated with an electrolyte used in high voltage temp. stabl. ized electrolytic condensers. The characteristics of these condensers compare favourably with foreign-manufactured products and have the advantage of smaller dimensions, being  $\frac{1}{4}$  as large as condensers with etched anodes, and  $\frac{1}{10}$  as large as those with unetched anodes.

ASS-514 METALLURGICAL LITERATURE CLASSIFICATION

4

Electrolyte for electrolytic condensers. S. S. Gulik. *J. Tech. Phys.* (U.S.S.R.) 15, 725 (1945). - The concn. of  $H_2O_2$  commonly used in working electrolytes of condensers could be lowered from the value of 120 g/100 g solvent (ethylene glycol), used by many U.S. firms, by the addn. of small amts. of a monobasic alc.  $H_2O_2$ . The concn. found satisfactory were 27 g/100 g solvent for low voltage condensers (up to 100 v.) and 7.3 g/100 g solvent for high voltage condensers (400 v.). The temp. stability of condensers made with these working electrolytes in the temp. range  $-60^\circ$  to  $+85^\circ$  is superior to that of condensers made with the usual electrolytes. The decrease in amt. of  $H_2O_2$  required decreases the cost of production, and the lower viscosity of the electrolyte facilitate impregnation of the condensers, both factors being a distinct advantage in mass production of these condensers.

Arvid L. Miller

AS 31 A METALLURGICAL LITERATURE CLASSIFICATION

5 A

45 64  
5

3291. Method for increasing frost-proof quality of electrolytic condensers. GUTIN, S. S. *J. Tech. Phys., USSR*, 19, 637-9 (May, 1949) *In Russian*. After surveying the difficulties of operating electrolytic condensers at very low temps. which arise mainly from the resistivity increase from  $10^4$  ohm-cm to  $10^8$  ohm-cm in a standard and to  $10^{10}$  ohm-cm in a frost-proof condenser at  $-60^\circ\text{C}$ . Experiments are described aiming at the increased conductivity of the layer impregnated with the electrolyte. Data for resistivity, p.f. and capacitance at  $-18^\circ\text{C}$  and  $-60^\circ\text{C}$  for different materials are tabulated. The results suggest the use of percale as impregnant, and it is claimed that etched foil construction becomes practicable with corresponding dimensional and economic advantages. A. I.

ASB-56A METALLURGICAL LITERATURE CLASSIFICATION

SA

A53  
N

7852. Investigation of the electric characteristics of thin oxide films by the method of the gas-discharge plasma. S. S. AYDIN, *J. Tech. Phys., USSR* 20, 1210-1216 (1950), 1950 *Id. Russian*

The thickness of the layer was determined from the capacitance measured in a plasma, and was found to be  $0.5 \mu$ . With this value the resistivity was calculated to be  $4.5 \cdot 10^{-4} \text{ ohm cm}$ . This is about one order of magnitude lower than the value measured with metal electrodes. The relation between voltage and current through the film follows Ohm's Law up to a value of the field strength of the order  $4 \cdot 10^5 \text{ V/cm}$ . Later on, Poole's effect becomes conspicuous. The method is particularly suitable for the films of dielectric oxide used in electrolytic capacitors.

ATA 11A DETAILS OF LITERATURE CLASSIFICATION

WE.

Materials and Subsidary Techniques

621 310 15 2750

The Oxide Layer on Aluminium and the Temperature Dependence of the Capacitance of the Electrolytic Capacitor. S. S. Gutin (Zh. tekhn. fiz. 1961, Vol. 21, No. 2, pp. 133-142). A report on an experimental investigation, the main conclusions of which are as follows: 1) the oxide layer is of porous structure; 2) the temperature dependence of capacitance is determined by the action of the electrolyte in the pores; 3) covering the layer with a thin film of a solid dielectric reduces the temperature dependence of capacitance and ensures linear variation within the working range of temperatures.

ASB SLA METALLURGICAL LITERATURE CLASSIFICATION

AID P - 462

Subject : USSR/Electricity  
Card 1/1 Pub. 27 - 25/34  
Author : Gutin, S. S., Kand. of Tech. Sci.  
Title : Scientific Conference of the Siberian Physico-Technical  
Institute. (Current News)  
Periodical : Elektrichestvo, 7, 89-90, J1 1954  
Abstract : Report from a conference held in January 1954 in Tomsk  
on the occasion of the 25th anniversary of the Siberian  
Physico-Technical Institute. 22 reports were discussed  
in the section on Electric Insulation.  
Institution : None  
Submitted : No date

FD-3214

USSR/Physics, Conferences

Card 1/1      Pub. 153-23/28

Authors      : Gutin S. S. and Krivov M. A.

Title        : Scientific conference of the Sibirian Physicotechnical Institute

Periodical   : Zhur. Tekh. Fiz., 25, No 7, 1332-1334, 1955

Abstract    : A conference was held in Tomsk at the end of January as celebration of 25 years of existence of the Sibirian Physicotechnical Institute. The director of the Institute, corresponding member of the Acad. Sci. USSR, V. D. Kuznetsov opened the session. The topics discussed were: Solid state physics, theoretical physics, electric insulation, optics and spectroscopy, electric and magnetic controls. A brief report is given of all presented papers.

Institution: --

Submitted   : --

Gutin, S. S.

ZHURNAL TEKHNIЧЕСКОИ ФИЗИКИ

Journal of Technical Physics

Vol 26, No. 2, April, 1956

GUTIN, S. S.,

PROKHAROV, L. L.,

SERBULENKO, M. G.:

On Measuring the Real Surface of Metal (During the Process of Pickling Aluminium Foil in Condenser Manufacture).

A method was developed based on the double electrical layer at the boundary of two phases for determining the relative magnitude of the real surface of a metal which is applicable for continuous measurement of the pickling coefficient of aluminium foil during the process of dynamic pickling. The here described method permits to make the correction of the pickling process fully automatic by changing step-down gear currently used for regulating the speed of the foil by a d.c. motor, the speed of rotation of which can be controlled more easily. The here described method permits to study in detail the levelling of the pickled surface of the foil during the process of formation and the degree of coarseness, particularly of rolled aluminium foil. The measuring error does not exceed 3 to 5% of the mean value.

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GUTIN, S.S.; PROCHAKOV, L.L.; SERBULENKO, M.G.

Measuring the actual surface of metals. Zhur.tekh.fiz. 26 no.4:  
865-869 Ap '56. (MLRA 9:8)

1. Tomskiy politekhnicheskii institut.  
(Surfaces (Technology)--Measurement)  
(Metals--Finishing)

GUTIN, S.S.

CARD 1 / 2

PA - 1450

SUBJECT  
AUTHOR  
TITLE  
PERIODICAL

USSR / PHYSICS  
GUTIN, S.S.

The Congress on the Electrical and Physical-Chemical Properties of  
Solid Dielectrics.  
Usp.fis.nauk, 59, fasc.4, 755-763 (1956)  
Issued: 10 / 1956 reviewed: 10 / 1956

This congress, which took place at Tomsk in September 1955, dealt with problems of dielectric disruption, polarization, dielectric losses, and electric conductivity of solid crystalline dielectrics. Among the participants there were scientists from Tomsk, Moscow, Leningrad, Novosibirsk, Irkutsk, Kemerov etc., and lectures delivered (about 40) dealt with the following subjects: The problem of the thermal and electric disruption of solid dielectrics, the theory of the electric ionization disruption of crystals, the modern theories of the electric disruption of solids, the attempt at developing a theory on the properties of ion dielectrics on the basis of their thermodynamic properties, investigation of some solid solutions of alkali-halide salts, comparison of the dependence of disruptive strength on the composition of the solid solution with the dependence of surface energy on the composition of the same solutions (disruptive strength increases with an increase of the energy of the crystal lattice), the existence of a minimum of disruptive strength, similar investigations carried out in connection with solid solutions which had been stored for a long time, comparison of the disruptive strength of some gases and liquids with their physical and chemical properties, the dependence of the disruptive strength of alkali-halide salts on

SOV/139-58-4-15/30

AUTHORS: Gorodetskiy, A.F., ~~Gutin, S.S.~~, Mel'nik, I.G.,  
Serbulenko, M.G. and Shadrin, V.S.

TITLE: Some Electrical Properties of Thin Layers of Tellurium  
and Germanium (Nekotoryye elektricheskiye svoystva  
tonkikh slojev tellura i germaniya)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika,  
1958, Nr 4, pp 91-96 (USSR)

ABSTRACT: The dependence of resistivity on temperature, voltage-  
current characteristics and limiting current densities  
was determined for thin layers of tellurium and germanium  
condensed in vacuo onto bases of various materials at  
various temperatures. Some relations between resistivity  
and deformation were also established. The main  
conclusions, derived from measurements described below, were:  
1) The resistivity of germanium films is fairly stable  
with time. The change in resistivity with deformation  
is about 2.3% for a relative deformation of  $4.5 \times 10^{-4}$ .  
2) The resistivity of tellurium films is not stable.  
Mechanically such films are not durable. The change in  
resistivity with deformation is about half that of  
germanium films.

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SOV/139-58-4-15/30

## Some Electrical Properties of Thin Layers of Tellurium and Germanium

Preparation of Specimens. The thin films were produced by condensation in a vacuum of the order of  $1 \times 10^{-4}$  to  $5 \times 10^{-4}$  mm Hg in the form of strips 4 mm across and 30 mm long. The ends of the strips were overlapped for 1 to 2 mm by  $5 \times 9$  mm rectangles of metal, also vacuum-condensed, to which copper wires were soldered. The metal contacts for tellurium were always of nickel, but tin was also tried for germanium. The bases used were mainly glass, but in special cases polymerized VL-7 lacquer on a metal disc, mica and fused quartz were tried. The bases were heated by radiation from a current-carrying tantalum wire placed above the base and the temperature was controlled by a copper-constantan thermocouple attached to the surface of the base. The tellurium from which the specimens were made had less than  $10^{-4}\%$  impurities. The germanium used had a specific resistivity of 4 to 20 Ohm.cm. In all cases the conductivities were of the hole type.

Experimental Results and Discussion.

a) Tellurium condensed onto a cold base. Fig.1 shows  
Card 2/8 the log of the resistivity (which was of the order of some

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Some Electrical Properties of Thin Layers of Tellurium and Germanium

hundred thousand Ohms) plotted against reciprocal of the absolute temperature. The resistivity in air at a given temperature clearly increases after thermal cycling, as it also does for specimens stored at room temperature. This increase is irreversible.

b) Tellurium condensed onto a hot base (150-160°C).

Fig.2 shows again a rapid resistivity increase after an initial thermal cycle. There is no further change after some 4 to 5 thermal cycles.

Fig.3 shows the difference in characteristics for changes in the atmospheric environment. Experiments started at the moment of preparation of the specimen and carried out in vacuo are shown by the curves beginning at the asterisk and marked by white cycles on the graph. These characteristics are approximately two straight line segments with a break at 90°C. After each cycle a lower resistance was obtained. However, after leaving the specimen in vacuo at 130°C for 30 mins, the resistivity increased - without reaching its initial value. When air was admitted into the system resistance fell and the curves with the

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## Some Electrical Properties of Thin Layers of Tellurium and Germanium

black dots were obtained. The final curve was straighter and had a smaller gradient. When the same specimen was examined after 10 days in air, the curves at the bottom of Fig. 3 were obtained. These are approximately straight lines. Subsequent evacuation of the system did not reproduce the original properties of the specimen, though its resistance increased.

c) Germanium. Specimens condensed onto a cold base showed resistivities of the order of 10 megohms, while those condensed onto bases heated to 500-550°C showed resistivities between 7 and 30 kOhms (most lay between 10 and 16). It can be verified that in the hot-base specimens the layer structure is crystallographic, (see Refs 1 and 2). Specimens condensed in the same experiment onto bases of glass, mica and fused quartz showed practically identical resistivities, of the order of 12 kOhms. The resistivities of all specimens showed little change after ageing in air: 1.8% increase after 40 days. The resistivity temperature relationship was close to exponential between room temperature and 130°C.

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Some Electrical Properties of Thin Layers of Tellurium and Germanium

The points obtained by repeated thermal cycling lay fairly accurately on a single characteristic curve. It is noted in (Ref 3) that there is a significant change in resistivity for extension or compression of specimens of PbS. Furthermore, there are theoretical (Refs 4, 5) and experimental (Ref 6) grounds for a deformation-resistivity relationship for germanium monocrystals. The deformation in the experiments, on thin layers of Te and Ge, here described, was produced by the method described in (Ref 3) and measured optically to an accuracy of  $\mu$ . For tellurium each deformation cycle produced an irreversible increase in resistance. A single cycle is shown in Fig. 4. For germanium the results were independent of the cycling history, and are shown in Fig. 5.

Current Densities and Voltage-Current Characteristics.

Specimen thicknesses were measured by an interference microscope type MII-4 to an accuracy of  $0.027 \mu$ . The tellurium specimens had thicknesses between  $0.230$  and  $0.430 \mu$ , the germanium between  $0.18$  and  $0.3 \mu$ . With poor

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SOV/139-58-4-15/30

Some Electrical Properties of Thin Layers of Tellurium and Germanium

heat dissipation (measurement in air for specimens on glass bases) current densities of  $600 \text{ A/cm}^2$  were obtained for tellurium and  $200 \text{ A/cm}^2$  for germanium. The static voltage-current characteristics of tellurium and germanium were strictly linear for current densities up to  $300 \text{ A/cm}^2$  and  $400 \text{ A/cm}^2$  respectively. The dynamic characteristics, taken on an oscilloscope, were strictly linear; increasing voltage and the corresponding heating changed the gradient of the characteristic.

Discussion. Takemaro Sakurai et al. (Ref 7) have already noted the irreversible changes in resistivity of thin tellurium layers condensed onto cold bases. They explained the effect by stating that such layers have a micro-crystalline structure with amorphous patches between crystals and that heating causes the crystals to grow at the expense of the amorphous patches. The effect does not occur in layers condensed onto hot bases at temperatures below that at which the specimen was condensed, which is in accordance with the above

Card 6/8 explanation. Such specimens behave in the same way as



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Some Electrical Properties of Thin Layers of Tellurium and Germanium

those cut from the solid. The authors point out that this theory is too simple to explain all the effects noted in the experiments described: for example, the coincidence of characteristics for specimens measured below 90°C in vacuo with those cut from the solid. The effects can be explained by introducing two additional considerations: first, the properties of surface levels, described by E. Clark (Ref 8), which explain the break in characteristics at 90°C when all surface levels are occupied and, secondly, the additional acceptor levels produced by oxygen at the layer surface. Subsidiary considerations are the effect of water vapour which may affect the surface ionic conductivity and the diffusion of oxygen into the depths of the specimens creating conduction electron traps. For tellurium the noise level makes measurement difficult.

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SOV/139-58-4-15/30

. Some Electrical Properties of Thin Layers of Tellurium and Germanium

Paper presented at the Conference of higher educational establishments on dielectrics and semiconductors, Tomsk, February, 1958.

There are 5 figures and 8 references, 2 of which are Soviet, 6 English.

ASSOCIATION: Novosibirskiy elektrotekhnicheskiy institut  
(Novosibirsk Electro-technical Institute)

SUBMITTED: March 12, 1958

Card 8/8

AUTHOR: Kuchin, V. D., Candidate of Technical Sciences SOV/105-58-7-22/32

TITLE: Conference on Solid Dielectrics and Semiconductors (Konferentsiya po tverdyim dielektrikam i poluprovodnikam)

PERIODICAL: Elektrichestvo, 1958, Nr 7, pp. 83 - 84 (USSR)

ABSTRACT: The intermediate university conference was held from February 3<sup>rd</sup> to 8<sup>th</sup>, 1958, in the Tomsk Polytechnical Institute (Tomskiy politekhnicheskiy institut). Representatives of 12 universities, 10 scientific research institutes, and 11 plants of 14 towns attended this conference. 83 reports were delivered. The work of the conference was carried out in 6 sections. In the section of semiconductors spoke: Professor Yu.G.Tolstov (ENIN AS USSR, Moscow) about a new method for the determination of the work parameters in germanium power valves without destruction of the latter. Docent A.F. Gorodetskiy and Docent S.S.Gutin (Novosibirsk) found a temporary instability of the resistance in thin tellurium layers and a satisfactory stability of the germanium-and bismuth resistance. Docent G.A.Katayev and L.N.Rozanov (Tomsk University) reported on the mechanism of heterogeneous reactions which occur

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Conference on Solid Dielectrics and Semiconductors

SOV105-56-7-22/32

under the participation of solid bodies. A.R.Zasyapkina (SFTI) reported on the good rectifier properties of the silver-polystyrene varnish-germanium- and the mercury-KCl-germanium system. D.K. Vesnovskiy and others, Novosibirsk Institute of Electrical Engineering (Novosibirskiy elektrotekhnicheskiy institut) developed automatic semiconductor devices with flat germanium triodes and photoresistances as transmitters. V.F.Sinorov (SFTI) reported on the experiments which confirm the existence of the surface acceptor level and the surface conductivity in compounds of the type  $A^{III}B^{IV}$ . Ye.I.Cheglov and A.M.Vaysberg (SFTI) investigated the "bond lattice" and found that the effective mass of the light hole increases with the increase of the ionic component in the bond and becomes anisotropic. V.N.Vertoprakhov (SFTI) reported on a new method for the detection of the crystallographic planes from the discharge figures on the germanium surface. A.P.Vyatkin (SFTI) investigated the rules governing the wetting of germanium with indium in dependence on the surface treatment of indium, the crystallographic orientation of germanium, and the heat maintenance in the case of melting. V.A.Chaldyshev investigated the energetic spectrum on the basis of a lattice model in connection with the

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Conference on Solid Dielectrics and Semiconductors 307/105-58-7-22/32

sphalerite lattice. A.P.Izergin and others (SFTI) worked out a method for the breeding of germanium monocrystals with even distribution of the admixtures from the melt without melting pot. Yu.D.Lukantsever, Frunze Kirghiz Institute of Pedagogics (Kirgizskiy pedinstitut, Frunze) investigated the rules governing the dying down of the intensity of phosphorescence, photoconductivity, and the light sum in the phosphorus ZnS-Cu in an ideal crystal phosphorus. From an investigation of the temperature dependence of the photodielectric effect in the phosphorus ZnS-CuFe during excitation and in the case of long stages of dying down of the phosphorescence of the latter P.Ye.Ramazanov (SFTI) makes conclusions as to the relaxation character of the processes which cause this effect. I.G.Mel'nik, Novosibirsk Institute of Electrical Engineering, reported on a simple distribution chamber for a vacuum plant. Ye.I.Shuraleva, Irkutsk University (Irkutskiy universitet) reported on the investigation of the influence of the electric and thermal treatment in the case of pure rock salt crystals, as well as on the influence of different concentrations of an activator introduced into the phosphori NaCl.Ni according to the method of electrolysis on the formation processes of F-centers

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Conference on Solid Dielectrics and Semiconductors 30/105-58-7-22/32

and the storing of light sums under the action of X-rays.

ASSOCIATION: Tomskiy politekhnicheskii institut (Tomsk Polytechnical Institute)

1. Dielectrics--USSR 2. Semiconductors--USSR 3. Conferences

Card 4/4

9(3), 24(3)

AUTHORS:

Mel'nik, V. G., Mel'nik, I. G.,  
Gutin, S. S.

SOV/20-121-5-24/50

TITLE:

On the Electron-Hole Transition in Point-Contact Solid  
Rectifiers (Ob elektronno-dyrochnom perekhode v tochechnykh  
tverdykh vypryamitelyakh)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 5,  
pp 852 - 854 (USSR)

ABSTRACT:

By applying the method discussed in this paper, the  
authors discovered the formation of a region with  
hole conduction around the point contact of the diode.  
This formation is caused by the influence of an  
electric pulse on electron germanium or electron  
silicon. The carrying out of the experiments is discussed.  
The oscillograms of the thermoelectromotive force and  
of the volt-ampère characteristics of the germanium  
diodes before and after the formation of the above  
mentioned region are similar to the oscillograms of  
the silicon diodes. For germanium the authors therefore

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On the Electron-Hole Transition in Point-Contact  
Solid Rectifiers

SOV/20-121-5-24/50

give only the oscillogram of the thermoelectromotive force after formation, since this oscillogram is the most important. Before the above mentioned formation, there is only a region with an electron mechanism of conduction. In this case, the rectifying action is insignificant. After formation, a region of hole conduction is developed around the point contact. This is also confirmed by the lower branch of the oscillogram of the thermoelectromotive force. The sign of the thermoelectromotive force then becomes negative and the rectifying action of the diodes is improved noticeably. It is possible that the rectifying action of the diodes before the formation of the region with hole conduction is caused by the difference between the contact potentials of the metal and of the semiconductor. After formation, the improved rectifying action may be caused by the p-n-transition developed as a result of the above discussed formation. Thus, in germanium and silicon point rectifiers, there are 2 regions with

Card 2/3



On the Electron-Hole Transition in Point-Contact  
Solid Rectifiers

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different types of conduction which implies the existence of a p-n-transition. The authors thank A.F.Gorodetskiy for his constant interest in this paper. There are 4 figures and 3 references, 2 of which are Soviet.

ASSOCIATION: Novosibirskiy elektrotekhnicheskii institut (Novosibirsk Institute of Electrical Engineering)

PRESENTED: April 14, 1958, by A.F.Ioffe, Academician

SUBMITTED: April 5, 1958

Card 3/3

83352

S/139/60/000/004/009/033

E201/E591

9.4340

AUTHORS: Griika, V.M., Gutin, S.S., Matoshin, V.M. and  
Serbulenko, M.G.

TITLE: The Problem of Electrical Forming of Germanium Point-  
Contact Diodes 25

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika,  
1960, No.4, pp.98-106

TEXT: Mass-produced germanium point-contact diodes of D-2 type are formed by single 50 c/s pulses of 0.05 sec duration and  $\sim 1.5$  A amplitude (35-70 V). Such forming produces diodes whose properties differ from sample to sample, because the result of forming is governed by the initial properties of the devices. To investigate the problem the following procedures were followed. Instead of a single pulse the authors used either a series of short (millisecond) pulses of the same amplitude, or a series of short pulses with the amplitude increasing step-wise at each pulse. After each pulse various parameters of the diodes were measured in order to find out how the rectifying contact was affected by forming. The measured parameters included: (1) capacitance of the contact in the blocking (reverse) direction. (2) forward  
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E201/E591

The Problem of Electrical Forming of Germanium Point-Contact Diodes current ( $J_{np}$ ), (3) reverse voltage ( $U_{o6p}$ ), (4) slope of the current-voltage characteristic at near-zero currents, (5) photo-e.m.f. The circuitry of the apparatus is given in Figs.1-3 and some of the results in Figs. 4-5. The latter two figures give the dependences of the reverse voltage, forward current and diode capacitance (C) on the number of forming pulses. The results obtained by the authors showed that it was necessary to produce a molten crystal region at the metal-crystal boundary, without melting the metal point. The authors recommend forming by a series of short pulses whose current amplitudes rise step-wise. After each pulse both  $U_{o6p}$  and  $J_{np}$  should be measured. When the desired values of these two quantities are reached, forming should be stopped. 86% of the samples had the required parameters when this pulse sequence method was used. The authors developed automatic apparatus for pulse-sequence forming of point-contact germanium diodes. This was tried out under industrial conditions and was found satisfactory. There are 5 figures and 9 references:

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S/139/60/000/004/009/033  
E201/E591

The Problem of Electrical Forming of Germanium Point-Contact Diodes

6 Soviet and 3 English.

ASSOCIATION: Novosibirskiy elektrotekhnicheskiy institut  
(Novosibirsk Electro-Technical Institute)

SUBMITTED: September 23, 1959

X

Card 3/3

GUTIN, S.S.; PUSEP, A.O.

On the mechanism underlying the formation of p-n junctions  
in point-contact solid rectifiers. Izv. vys. ucheb. zav;  
fiz. no.1:103-107 '63. (MIRA 16:5)

1. Novosibirskiy elektrotekhnicheskiy institut.  
(Junction transistors) (Electric current rectifiers)

GUTIN, S.S.; POSEP, A.O.

Thermal processes in point diodes during the passage of  
current pulses. Izv. vys. ucheb. zav.; fiz. no. 2:176-177  
'64. (MIRA 17:6)

1. Novosibirskiy elektrotekhnicheskii institut.

L 64286-65 EWT(1)/EWT(m)/EWP(t)/EWP(b)/EWA(h) IJP(d) JD/GS

ACCESSION NR: AT5020469

UR/0000/64/000/000/0233/0237

AUTHOR: Gutin, S. S. <sup>44</sup>; Pusep, A. O. <sup>44</sup>

TITLE: Mechanism of formation of point-contact crystal rectifiers <sup>25, 44</sup>

SOURCE: <sup>44</sup> Mezhevuzovskaya nauchno-tehnicheskaya konferentsiya po fizike poluprovodnikov (poverkhnostnyye i kontaktnyye yavleniya). Tomsk, 1962. Poverkhnostnyye i kontaktnyye yavleniya v poluprovodnikakh (Surface and contact phenomena in semiconductors). Tomsk, Izd-vo Tomskogo univ., 1964, 233-237

TOPIC TAGS: semiconductor diode, electric property, semiconductor research <sup>44</sup>

ABSTRACT: A number of experiments are conducted to explain the process of pulse formation of point-contact crystal diodes. The authors measure the temperatures developed in the region near the contact during thermal and electrical formation, the capacity of the p-n junction in the diode, the Q of a tank circuit containing the diode and the current-voltage characteristics. The temperature in the case of thermal formation was found to be of the order of 800-900°C. This is below the melting point of germanium. However, a liquid phase may be formed by contact melting. In the case of electrical formation, local heating of the contact region at the moment the current pulse passes through is considerably higher than the melting

Card 1/2

L 64286-65

ACCESSION NR: AT5020469

point of germanium. The capacity was measured at 40-60 Mc. These measurements showed that electrical forming gives diodes with a capacity of 1.5-2.0  $\mu\text{f}$ , while the values for thermal forming are somewhat lower--1.2-1.6  $\mu\text{f}$ . Before formation, the capacitances of the diodes were 0.5-1  $\mu\text{f}$ . A tank with a thermally formed diode has a considerably higher Q than one with an electrically formed diode. No differences were observed in the current-voltage characteristics of the diodes formed by these two methods. Thus the differences observed in the diodes are apparently due solely to the thermal effect of the electric forming current. Orig. art. has: 2 figures, 3 formulas.

ASSOCIATION: Novosibirskiy elektrotekhnicheskiy institut (Novosibirsk Electrical Engineering Institute)

SUBMITTED: 06Oct64

ENCL: 00

SUB CODE: EC

NO REF SOV: 003

OTHER: 001

dm  
Cont. 2/2



USSR/Cultivated Plants - Grains.

M-2

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29727

Author : Gutin, T.

Inst : -

Title : Preliminary Results of the Planting of Odesskaya 10  
Variety Corn.

Orig Pub : Sots. s.-kh. Azerbaydzhana, 1957, No 7, 24-25 (azerb.,  
russk.).

Abstract : No abstract.

Card 1/1

Gutina, B. S.

"Aspects of the Agricultural Engineering of Growing Oak in the Dry  
Steppe Parts of the Saratov Trans-Volga Region." All-Union Order of  
Lenin Academy of Agricultural Sciences imeni V. I. Lenin. All-Union  
Sci Res Inst of Fertilizers, Agricultural Engineering, and Soil  
Science. Moscow, 1955 (Dissertation for the degree of Candidate in  
Agricultural Sciences)

SO: Rnizhnaya letopis' No. 27, 2 July 1955

BALYABO, N.K., doktor sel'skokhozyaystvennykh nauk; GUTINA, B.S., kandidat  
sel'skokhozyaystvennykh nauk; BLINOV, M.I.

Reclamation of virgin lands and improvement of steppe solonets and  
solonchak soils. Dokl.Akad.sel'khoz. 21 no.4:3-10 '56. (MLBA 9:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut udobreniy, agre-  
tekhniki i agronomovedeniya. Predstavlena akademikom I.I. Samoylovym.

(Agriculture)  
(Solonetz soils)  
(Solonchak soils)

GUTINA, G.L.; KHAVKINA, P.S., inzh.-khimik

Simplified method for dyeing wool fibers. Tekst. prom. 23  
no.6:57 Je '63. (MIRA 16:7)

1. Nachal'nik nauchno-issledovatel'skoy tekstil'noy laboratorii  
Khar'kovskoy sukonnoy fabriki "Krasnaya nit'" (for Gutina).
2. Nauchno-issledovatel'skaya tekstil'naya laboratoriya  
Khar'kovskoy sukonnoy fabriki "Krasnaya nit'" (for Khavkina).  
(Dyes and dyeing--Wool)

KAUFMAN, B., kand.tekhn.nauk; LINETSKIY, Ya., inzh.; GUTINA, M., inzh.; SIDOROVA,  
No, inzh.

Insulating materials for layered exterior elements of buildings.  
Zhil. stroi. no.1:10-12 '63. (MIRA 16:2)  
(Insulating materials)

Gutina, M. A.

Vascular reactions of rabbit ears to alcohol acid in pike  
spasm. M. A. Gutina (Mos. Inst., Dnepropetrovsk).  
Farmakol. i Toksikol. 17, No. 9, 19-24 (1964).—In vascular  
spasms, induced by repeated constriction of the neurovascular  
bundles in rabbit ears, alcohol acid (perfused as 0.01%  
soln., neutralized) generally has a strong spasmolytic action,  
but to obtain a lasting effect the perfusion must be repeated.  
Julian P. Smith

Chem Pharmacology

GUTINA-M.F.

Accumulation and elimination of bromine from central nervous system of dog. G. E. Butruk and M. A. Gutina (Med. Inst., Dnepropetrovsk). *Fiziol. Zhur.* S.S.S.R. 42, 339-42(1956).--Bromide ion is accumulated differently in the various parts of the brain. The gray matter accumulates more of it than does the white matter. Reduction of the dose of NaBr serves to retard its accumulation in the brain. After cessation of NaBr supply, the level of Br in the blood drops sharply after 2 days; a similar decline occurs in the brain, slowing down after 3 days. The cortex generally retains more Br than does the medulla.

G. M. Kozlovskii

Chin Pharmacology

LINETSKIY, Ya.I.; GUTINA, M.G.

Construction materials and reed articles. Stroi. mat. 7 no.3:14-  
21 Mr '61. (MIRA 14:4)

1. Rukovoditel' sektora ekonomiki Nauchno-issledovatel'skogo  
instituta stroitel'noy fiziki i ograbdayushchikh konstruktsiy  
Akademii stroitel'stva i arkhitektury SSSR (for Linetskiy).
2. Glavnyy inzhener sektora ekonomiki Nauchno-issledovatel'  
skogo instituta stroitel'noy fiziki i ograbdayushchikh konstruktsiy  
Akademii stroitel'stva i arkhitektury SSSR (for Gutina).  
(Building materials) (Reed products)

SHMIDT, L.M., kand. tekhn. nauk; STRIZHEVSKIY, M.F., inzh.; LINETSKIY, Ya.I., inzh.; OBUKHOVA, A.P., inzh.; GUTINA, M.G., inzh.; GUZMAN, M.A., red. izd-va; BOROVNEV, N.K., tekhn. red.

[Manufacture of heat and sound insulation materials; present state and future development]Proizvodstvo teplo-zvukoizoliatsionnykh materialov; sostoianie i perspektivy razvitiia. [By] L.M. Shmidt i dr. Moskva, Gosstroizdat, 1962. 145 p. (MIRA 15:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut novykh stroitel'nykh materialov.

(Insulating materials)

(Soundproofing)



SOV/6207

PHASE I BOOK EXPLOITATION

Shmidt, L. M., Candidate of Technical Sciences, M. F. Strizhevskiy, Engineer, Ya. I. Linetskiy, Engineer, A. P. Obukhova, Engineer, and M. G. Gutina, Engineer

Proizvodstvo teplo-zvukoizolyatsionnykh materialov; sostoyaniye i perspektivy razvitiya (Manufacture of Heat- and Sound-Insulating Materials; Present State and Perspectives in Development) Moscow, Gosstroyizdat, 1962. 145 p. Errata slip inserted. 6500 copies printed.

Sponsoring Agencies: Akademiya stroitel'stva i arkhitektury SSSR. Vsesoyuznyy nauchno-issledovatel'skiy institut novykh stroitel'nykh materialov, and Nauchno-issledovatel'skiy institut stroitel'noy fiziki i ograzhdayushchikh konstruksiy.

Ed. of Publishing House: M. A. Guzman; Tech. Ed.: N. K. Borovnev.

PURPOSE: This book is intended for builders and workers in the building materials industry.

Card 1/3

COVERAGE

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R0006

SOV/6207

Manufacture of Heat- and Sound-Insulating Materials. The book deals with the manufacture of heat- and sound-insulating materials. Insulating materials of mineral wool, fiber glass, wood and fiber slabs, cement fibrolite, porous materials, perlite, vermiculite, and foam glass are classified, and their physical and mechanical properties are discussed. The manufacture and use of these materials are described. The locations of Soviet manufacturing plants are given, and typical projects are described in detail. No personalities are mentioned. There are 29 references, all Soviet.

TABLE OF CONTENTS:

Foreword

Introduction

I. Mineral Wool

3

II. Fiber Glass

5

8

29

Card 2/3

GUTINA, R.I.

PHASE I BOOK EXPLOITATION

110  
SOV/6181

Ural'skoye soveshchaniye po spektroskopii. 3d, Sverdlovsk, 1960. Materialy (Materials of the Third Ural Conference on Spectroscopy) Sverdlovsk, Metallurgizdat, 1962. 197 p. Errata slip inserted. 3000 copies printed.

Sponsoring Agencies: Institut fiziki metallov Akademii nauk SSSR. Komissiya po spektroskopii; and Ural'skiy dom tekhniki VSNTSO.

Eds. (Title page): G. P. Skorniyakov, A. B. Shayevich, and S. G. Bogomolov; Ed.: Gennadiy Pavlovich Skorniyakov; Ed. of Publishing House: M. L. Kryzhova; Tech. Ed.: N. T. Mal'kova.

PURPOSE: The book, a collection of articles, is intended for staff members of spectral analysis laboratories in industry and scientific research organizations, as well as for students of related disciplines and for technologists utilizing analytical results.

Card 1/15

Materials of the Third Ural Conference (Cont.)

110  
SOV/6181

COVERAGE: The collection presents theoretical and practical problems of the application of atomic and molecular spectral analysis in controlling the chemical composition of various materials in ferrous and nonferrous metallurgy, geology, chemical industry, and medicine. The authors express their thanks to G. V. Chentsova for help in preparing the materials for the press. References follow the individual articles.

TABLE OF CONTENTS:

Foreword

PART I

Sherstkov, Yu. A., and L. F. Maksimovskiy. Investigation of the dependence of the total intensity of spectral lines on the concentration of elements in an arc-discharge plasma

3

4

Card 2/15

Materials of the Third Ural Conference (Cont.)

SOV/6181

Fishman, I. S. Remarks on a system of standards for  
analysis of complex alloys

73

Shiryayeva, N. Ye., Yu. I. Mal'kov, and R. A. Kozlova.  
Photoelectric-stylometer analysis of vanadium cast irons

76

Basova, Ye. P., A. B. Shayevich, and S. B. Shubina. Spectro-  
graphic determination of harmful non-ferrous metal impurities  
in raw material intended for production of metallic chromium

77

Sorokina, N. N. Spectral determination of cerium,  
lanthanum, and barium in steel

80

Shayevich, A. B., and N. D. Startseva. Spectral determination  
of vanadium, manganese, silicon, and chromium in ferro-  
vanadium

86

Gutkina, R. I. Chemical-spectral method of analysis of high-  
purity nickel

88

Card 7/15

LEYKIN, Ye.R.; GUTINA, S.L.; MESHKOVA, V.Ya.

Development of the method of purification of xylose solution prior  
to hydrogenation. Sbor.trud. NIIGS 11:77-85 '63. (MIRA 16:12)

GUTINA, S.L.

BENIN, G.S.; GUTINA, S.L.

Determination of calcium salts by means of complexes.  
Sakh.prom. 28 no.4:44-45 '54. (MIRA 7:7)

1. Tsentral'nyy nauchno-issledovatel'skiy institut sakhar-  
noy promyshlennosti.  
(Sugar--Analysis and testing)

*6-20-1958*  
ADASKIN, Ye.M.; LUK'YANOVA, N.L.; GUTINA, S.L.

Optimum system for the purification of pentose hydrolyzates.  
Gidroliz. i lesokhim. prom. 11 no.1:14-15 '58. (MIRA 11:2)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut gidroliznoy i  
sul'fitno-spirovoy promyshlennosti.  
(Pentoses)

ADASKIN, Ye.M.; LUK'YANOVA, N.L.; GUTINA, S.L.

Studying ion exchanging resins of new types. Gidroliz, i. lesokhim, prom.  
11 no.8:15-17 ' 58. (MIRA 11:12).

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidroliznoy i  
sul'fitno-spirovoy promyshlennosti.  
(Resins, Synthetic) (Ion exchange) (Hydrolysis)



LEBEIN, Ye.R.; GUTINA, S.L.

Investigation of the process of evaporation of xylosic solutions.  
Gidroliz. i lesokhim. prom. 14 no.5:11-12 '61. (MIRA 16:7)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut gidroliznoy  
i sul'fitnospirovoy promyshlennosti.  
(Xylose)

LEYKIN, Ye.R.; GUTINA, S.L.; CHEREMUKHIN, I.K.; GRANKINA, L.G.;  
PAVLOV, A.A.; NOVOSELOVA, A.A.

Introducing the battery method for ion-exchange purification  
of xylose syrups. Gidroliz. i lesokhim. prom. 16 no.2:15-16  
'63. (MIRA 16:6)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut gidro-  
liznoy i sul'fitnospirtovoy promyshlennosti (for Leykin,  
Gutina). 2. Ferganskiy gidroliznyy zavod (for Chereemukhin,  
Grankina, Pavlov, Novoselova).  
(Xylose) (Ion exchange)

GUTINA, Vera Nikolayevna; IMSHENETSKIY, A.A., akademik, otv. red.;  
RUBIN, Ye.L., red.izd-va; GUS'KOVA, O.M., tekhn. red.

[Physiology of nitrifying bacteria; a historical essay] Fi-  
ziologiya nitrifitsiruiushchikh bakterii; istoricheskii ocherk.  
Moskva, Izd-vo Akad. nauk SSSR, 1963. 165 p. (MIRA 16:5)  
(BACTERIA, NITRIFYING)

(S) V I I N A L Y U I  
AGAPKIN, I.N.; GUTINA, Yu.L.

*Deceased*

Immediate results of streptomycin therapy of lupus tuberculosis in  
contraindications and resistance to vitamin D2 therapy. Vest. vener.,  
Moskva no.3:6-9 May-June 1953. (CIML 25:1)

1. Candidates Medical Sciences; Gutina, deceased. 2. Of the Institute  
of Skin Tuberculosis (Director -- I. N. Agapkin; Scientific Supervisor --  
Professor N. L. Rossiyanakiy).

GUMIYEV, G. T.      Cand. Agric. Sci.

"Frost Resistance of Tung Oil Trees," Dok. v-s Ak. Selkhoz. Nauk, No.1, 1948

All-Union Sci.Res.Inst. for Tea and Subtropical Culture

GUTIIYEV, G. T.

Gutiyev, G. T.: "The avocado. History of its introduction into the USSR and its botanical features", Byulleten' Vsesoyuz. nauch.-issled. in-ta chaya i subtrop. kul'tur, 1948, No. 3, p. 123-32, - Bibliog: p. 131-32.

SO: U-3042, 11 March 53, (Letopis 'nykh Statey, No. 10, 1949).

GUTIIYEV, G. T.

1A 165T15

USSR/Biology - Frost Resistance  
Trees, Tung Oil Jan 50

"Frost Resistance of Tung Oil Trees," G. T. Gutiyev, Cand Agr Sci, All-Union Sci Res Inst for Tea and Subtrop Culture

"Dok v-s Ak Selkhoz Nauk" No 1, pp 22-25

Tabulates and discusses data on frost resistance of Aleurites Fordii and Aleurites cordata collected over 14-yr period at 55 points in western Georgia, Azerbaydzhan, and sub-tropical regions of Krasnodar Kray. Finds that with good maintenance and proper drainage, young 1- to 3-year-old A. Fordii withstands

USSR/Biology - Frost Resistance Jan 50  
(Contd) 165T15

temperatures of -9, -10, and even -11° A. Cordata withstands -9°, but is destroyed at -10° and -11°. At fruit-bearing ages A. Fordii withstands -12° and even -14°, thus permitting cultivation of A. Fordii in colder regions. Submitted 6 Apr 48.

165T15

1. GUTTIYEV, G. T.

2. USSR (660)

4. Olive

7. "Olive tree." S.I. Petiaev. Sad i og. no. 9, 1952

*REVIEWED BY G. T. GUTTIYEV*

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.



KAMSHILOV, N.A.; ANTONOV, M.V.; BAKHAREV, A.N.; BLINOV, L.F.; BORISOGLEBSKIY, A.D.; GAR, K.A.; GARINA, K.P.; GORSHIN, P.P.; GUTIYEV, G.T.; DELITSINA, A.V.; DUBROVA, P.F.; YEVTUSHENKO, A.F.; YEGOROV, V.I.; YEREMENKO, L.L.; YEFINOV, V.A.; ZHILITSKIY, Ya.Z.; ZHUGHKOV, N.G., prof.; ZAYETS, V.K.; ISKOL'DSKAYA, R.B.; KOLESHNIKOV, V.A., prof.; KOLESHNIKOV, Ye.V.; KOSTINA, K.F.; KRUGLOVA, V.A.; LEONT'YEVA, M.N.; LESYUK, Ye.A.; MUKHIN, Ye.N.; NAZARYAN, Ye.A.; NEGRUL', A.M., prof.; ODITSOV, V.A.; OSTAPENKO, V.I.; PETRUSEVICH, P.S.; PROSTOSERDOV, N.N., prof.; RUKAVISHNIKOV, B.I.; RYABOV, I.N.; SABUROV, N.V.; SABUROVA, T.N.; SAVZDARG, V.E.; SEMIN, V.S.; SIMONOVA, M.N.; SMOLYANINOVA, N.K.; SOBOLEVA, V.P.; TARASENKO, M.T.; FETISOV, G.G.; CHIZHOV, S.T.; CHUGUNIN, Ya.V., prof.; YAZVITSKIY, M.N.; ROSSOSHCHANSKAYA, V.A., red.; BALLOD, A.I., tekhn.red.

[Fruitgrower's dictionary and handbook] Slovar'-spravochnik sadovoda. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1957. 639 p.  
(MIRA 11:1)

(Fruit culture--Dictionaries)

GUTIIYEV, Georgiy Timofeyevich; SERGEYEV, V.I., red.; ZUBRILINA, Z.P.,  
tekhn.red.

[Subtropical fruit plants] Subtropicheskie plodovye rastenija.  
Moskva, Gos.izd-vo sel'khoz.lit-ry, 1958. 222 p. (MIRA 12:5)  
(Tropical fruit)

GUTIIYEV, G. T.

Rhythmics of the vegetation of introduced evergreen plants  
in the subtropical regions of the U.S.S.R. Biol. Glav. bot.  
sada no.47:13-22 '62. (MIRA 16:1)

1. Glavnyy botanicheskiy sad AN SSSR.

(Tropical plants) (Plant introduction)  
(Growth(Plants))

GUTTYEVA, L. Kh. Cand. Med. Sci.

Dissertation: "Economical Resection of a Knee Joint." Central Inst. for Advanced Training of Physicians. 27 May 47.

SO: Vechernyaya Moskva, May, 1947 (Project #17836)

PERLINSKA-SCHNEJDER, Lidia; GUTKA, Anna

Nitrogranulogen in the treatment of nephrotic syndrome. Pol. tyg.  
lek. 20 no.4:144-145 25 Ja '65.

1. Z II Kliniki Chorob Wewnętrznych Akademii Medycznej w Lublinie  
(Kierownik: prof. dr. Alfred R. Tuszkiewicz).

PERLINSKA-SCHNEJDER, Lidia; GUTKA, Anna; MARCZYNSKA-WOLANSKA, Hanna;  
SZYBA, Zofia

Quantitative cultures of urine in the diagnosis of significant bacteriuria. Pol. tyg. lek. 20 no.19:679-681 10 My '65.

1. Z II Kliniki Chorob Wewnętrznych AM w Lublinie (Kierownik: prof. dr. med. Alfred R. Tuszkiewicz).

KOWALEWSKI, Jan; TUSZKIEWICZ, Maria; GUTKA, Anna; PLESZCZYNSKA, Ewa

Ampicillin -- a wide-spectrum penicillin in the treatment of urinary tract infection. Pol. tyg. lek. 20 no.40:1504-1506 4 0 '65.

1. Z II Kliniki Chorob Wewnętrznych AM w Lublinie (Kierownik: prof. dr. med. A.R. Tuszkiewicz) i z Zakładu Mikrobiologii AM w Lublinie (Kierownik: prof. dr. J. Parnas).

GUTKEVICH, S.G.; LEBEDEV, O.V.; SEL'YANINOVA, N.S.

Easy gluing of NaJ(Tl) single crystals. Prib. i tekhn. eksp. 6  
no.1:198-199 Ja-F '61. (MIRA 14:9)

1. Institut radiatsionnoy gigiyeny.  
(Gluing)



L 6860-65 EWT(m)/EPF(c)/EPR/EMP(j)/T/EMP(q)/EMP(b) Pc-L/Pr-L/Pa-L IJP(c)/  
AFWL/ESD(t)/RAEM(t) RM/WJ/JD

ACCESSION NR: AR4044269

S/0272/64/000/006/0160/0161

70

SOURCE: Ref. zh. Metrologiya i izmeritel'naya tekhnika. Otdel'nyy vy\*pusk,  
Abs. 6.32.1133

AUTHOR: Gutkevich, S. G.; Lebedev, O. V.; Pisarevskiy, A. N.; Selyaninova,  
N. S.; Shamov, V. P.

TITLE: New methods for the packing of scintillators 19

CITED SOURCE: Sb. Stsintillyatory\* i stsintillyats. materialy\*, Khar'kov,  
Khar'kovsk. un-t, 1963, 236-238

TOPIC TAGS: scintillator, single crystal, stilbene, tolane/OK-50 glue

TRANSLATION: There is described a method of packing of single crystals with  
the help of glue OK-50. The method ensures transparent, colorless, and very  
durable gluing of scintillators NaI(Tl), CsI(Tl), KI(Tl), stilbene, tolane, and  
plastic crystals with glass, improves their resolving power, and makes it

Card 1/2

L 6860-65

ACCESSION NR: AR4044269

possible to prepare very thin films of scintillators and to use for packing thin-walled containers which cannot be taken apart. The method is recommended for introduction into industrial production.

SUB CODE: OP, SS

ENCL: 00

Card 2/2

DOMBROVSKIY, V.A.; GAGEN-TORN, V.A.; GUTKEVICH, S.M.; POLYAKOVA, T.A.;  
SVECHNIKOV, M.A.; SHULOV, O.S.

The 20" reflecting telescope with an astrophotometer for photo-  
metric, colorimetric and polarimetric studies. Uch.zap.LGU  
no.328:83-94 '65.

(MIRA 18:10)

SAZONOV, V.V.; GUTKHEN, B.I.; USEVICH, I.Ye.; BOGDANOV, P.I.

Using machinery in stabilizing embankment slopes by sowing  
perennial grasses. Transp. stroi. 10 no. 12:13-16 D '60.  
(MIRA 13:12)

1. Rukovoditel' laboratorii sooruzheniya zemlyanogo polotna  
TSentral'nogo nauchno-issledovatel'skogo instituta svyazi  
(for Sazonov). 2. Starshiy inzhener TSentral'nogo nauchno-  
issledovatel'skogo instituta svyazi (for Gutkhen). . .  
3. Starshiy inzhener mekhkolonny No. 58 TSentral'nogo nauchno-  
issledovatel'skogo instituta svyazi; (for Usevich). 4. Starshiy  
nauchnyy sotrudnik Vsesoyuznogo instituta kormov Vsesoyuznoy  
Akademii sel'skokhozyaystvennykh nauk imeni Lenina (for  
Bogdanov).

(Railroads--Earthwork)

(Grasses)